

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A glycopeptide of the formula A₁-A₂-A₃-A₄-A₅-A₆-A₇, [SEQ ID NO:1] in which each dash represents a covalent bond; wherein the group A₁ comprises an α-amino acid residue, alkyl, aryl, aralkyl, alkanoyl, aroyl, aralkanoyl, heterocyclic, heterocyclic-carbonyl, heterocyclic-alkyl, heterocyclic-alkyl-carbonyl, alkylsulfonyl, arylsulfonyl, guanidinyl, carbamoyl, or xanthyl; where each of the groups A₂ to A₇ comprises an α-amino acid residue, whereby (i) the group A₁ is linked to an amino group on the group A₂, (ii) each of the groups A₂, A₄ and A₆ bears an aromatic side chain, which aromatic side chains are cross-linked together by two or more covalent bonds, and (iii) the group A₇ bears a terminal carboxyl, ester, amide, or N-substituted amide group;

and wherein the group A₄ is linked via a glycosidic bond to a disaccharide having a glucose residue directly attached to said A₄ residue, wherein said glucose residue bears an N-substituted aminohexose residue and at least one substituent of the formula YXR, N⁺(R₁)=CR₂R₃, N=PR₁R₂R₃, N⁺R₁R₂R₃ or P⁺R₁R₂R₃ attached to the C-6 position of said glucose wherein the group Y is a single bond, O, NR₁ or S; the group X is O, NR₁, S, SO₂, C(O)O, C(O)S, C(S)O, C(S)S, C(NR₁)O, C(O)NR₁, or halo (in which case Y and R are absent); and R, R₁, R₂, and R₃ are independently hydrogen, alkyl, aryl, aralkyl, alkanoyl, aroyl, aralkanoyl, heterocyclic, heterocyclic-carbonyl, heterocyclic-alkyl, heterocyclic-alkyl-carbonyl, alkylsulfonyl or arylsulfonyl; and any pharmaceutically acceptable salts thereof; provided that at least one of the substituents of the formula YXR is not hydroxyl; X and Y are not both O; X and Y are not S and O, or O and S, respectively; and if two or more of said substituent are present, they can be the same or different.

Claims 2-4 (Cancelled)

5. (Currently Amended) The glycopeptide of claim 3 1 in which at least one of said substituents is YXR wherein Y is a single bond and X is O, NR₁, S or SO₂.

6. (Original) The glycopeptide of claim 5 wherein X is NR₁.
7. (Original) The glycopeptide of claim 5 wherein X is S.
8. (Original) The glycopeptide of claim 5 wherein X is SO₂.
9. (Original) The glycopeptide of claim 5 wherein X is O and R is not H.

10. (Currently Amended) The glycopeptide of claim 3 wherein at least one of said substituents YXR is halogen.

11. (Previously Presented) The glycopeptide of claim 1 wherein A₁-A₂-A₃-A₄-A₅-A₆-A₇, SEQ ID NO:1, form a dalbaheptide.

Claims 12-13 (Cancelled)

14. (Original) The glycopeptide of claim 5 wherein A₁-A₂-A₃-A₄-A₅-A₆-A₇, SEQ ID NO:1, form a dalbaheptide.

15. (Original) The glycopeptide of claim 6 wherein A₁-A₂-A₃-A₄-A₅-A₆-A₇, SEQ ID NO:1, form a dalbaheptide.

16. (Original) The glycopeptide of claim 7 wherein A₁-A₂-A₃-A₄-A₅-A₆-A₇, SEQ ID NO:1, form a dalbaheptide.

17. (Original) The glycopeptide of claim 8 wherein A₁-A₂-A₃-A₄-A₅-A₆-A₇, SEQ ID NO:1, form a dalbaheptide.

18. (Original) The glycopeptide of claim 9 wherein A₁-A₂-A₃-A₄-A₅-A₆-A₇, SEQ ID NO:1, form a dalbaheptide.

19. (Original) The glycopeptide of claim 10 wherein A₁-A₂-A₃-A₄-A₅-A₆-A₇, SEQ ID NO:1, form a dalbaheptide.

20. (Original) The glycopeptide of claim 11, wherein A₆ in said dalbaheptide is linked via a glycosidic bond to one or more sugar residues.

21. (Original) The glycopeptide of claim 11 wherein the amino acids in said dalbaheptide are those in vancomycin.

22. (Original) The glycopeptide of claim 20 wherein A₁, which is N-methyl leucine, has been selectively removed and replaced with another of said groups A₁.

23. (Currently Amended) The glycopeptide of claim 1 in which the N-substituted aminohexose residue bears at least one of said substituents.

Claims 24-25 (Cancelled)

26. (Currently Amended) The glycopeptide of claim 5 in which the N-substituted aminohexose residue bears at least one of said substituents.

27. (Currently Amended) The glycopeptide of claim 6 in which the N-substituted aminohexose residue bears at least one of said substituents.

28. (Currently Amended) The glycopeptide of claim 7 in which the N-substituted aminohexose residue bears at least one of said substituents.

29. (Currently Amended) The glycopeptide of claim 8 in which the N-substituted aminohexose residue bears at least one of said substituents.

30. (Currently Amended) The glycopeptide of claim 9 in which the N-substituted aminohexose residue bears at least one of said substituents.

31. (Currently Amended) The glycopeptide of claim 10 in which the N-substituted aminohexose residue bears at least one of said substituents.

32. (Currently Amended) The glycopeptide of claim 11 in which the N-substituted aminohexose residue bears at least one of said substituents.

Claims 33- 34 (Cancelled)

35. (Currently Amended) The glycopeptide of claims 14 in which the N-substituted aminohexose residue bears at least one of said substituents.

36. (Currently Amended) The glycopeptide of claim 23 wherein at least one of said substituents is YXR wherein Y is a single bond and X is O, NR₁, S or SO₂.

37. (Original) The glycopeptide of claim 36 wherein X is NR₁.

38. (Previously presented) The glycopeptide of claim 37 wherein said substituent is attached to C3 of said N-substituted aminohexose residue.

Claims 39-101 (Cancelled)

102. (Currently Amended) A glycopeptide antibiotic bearing at least one disaccharide group, said disaccharide group comprising two saccharide groups, a first of said saccharide groups bearing at least one amino ~~or substituted amino~~ group, and a second of said saccharide groups linked directly to said glycopeptide ~~is modified to bears~~ at least one substituent of the formula YXR, N⁺(R₁)=CR₂R₃, N=PR₁R₂R₃, N⁺R₁R₂R₃ or P⁺R₁R₂R₃ at the C-6 position of said saccharide, in which the group Y is a single bond, O, NR₁ or S; the group X is O, NR₁, S, SO₂, C(O)O, C(O)S, C(S)O, C(S)S, C(NR₁)O, C(O)NR₁, or halo (in which case Y and R are absent); and R, R₁, R₂, and R₃ are independently hydrogen, alkyl, aryl, aralkyl, alkanoyl, aroyl, aralkanoyl, heterocyclic, heterocyclic-carbonyl, heterocyclic-alkyl, heterocyclic-alkyl-carbonyl, alkylsulfonyl or arylsulfonyl, provided that the substituents of the formula YXR is not hydroxyl; X and Y are not both O; X and Y are not S and O, or O and

S, respectively; and if two or more of said substituents are present, they can be the same or different, or a pharmaceutically acceptable salt thereof.

103. (Original) The glycopeptide antibiotic of claim 102 wherein the second of said saccharide groups is glucose modified to bear at least one substituent which is not hydroxyl at the C6 position of said glucose.

104. (Original) The glycopeptide antibiotic of claim 103 which is vancomycin modified to bear at least one substituent which is not hydroxyl at the C6 position of said glucose.

105. (Original) The glycopeptide antibiotic of claim 104 wherein said at least one substituent which is not hydroxyl at the C6 position of said glucose is amino.

106. (Original) The glycopeptide antibiotic of claim 105 wherein the first of said saccharide groups bears at least one substituted amino group.

107. (Currently Amended) The glycopeptide antibiotic of claim 106 wherein said ~~substituted~~ amino group is NR₁H wherein R₁ bears one or more alkyl, substituted alkyl, aryl, substituted aryl, heterocyclic or substituted heterocyclic groups.

108. (Original) The glycopeptide antibiotic of claim 107 wherein at least one of said substituted alkyl groups is aralkyl.

109. (Original) The glycopeptide antibiotic of claim 107 wherein at least one of said substituted aryl groups is aralkyloxy substituted aryl.

110. (Original) The glycopeptide antibiotic of claim 107 wherein at least one of said substituted aryl groups is halo substituted aryl.

111. (Currently Amended) The glycopeptide antibiotic of claim 102 wherein the first of said saccharide groups bears at least one ~~substituted~~ amino group.

112. (Currently Amended) The glycopeptide antibiotic of claim 111 wherein said ~~substituted~~ amino group is NR₁H wherein R₁ bears one or more alkyl, substituted alkyl, aryl, substituted aryl, heterocyclic or substituted heterocyclic groups.

113. (Original) The glycopeptide antibiotic of claim 112 wherein at least one of said substituted alkyl groups is aralkyl.

114. (Original) The glycopeptide antibiotic of claim 112 wherein at least one of said substituted aryl groups is aralkyloxy substituted aryl.

DOCKET NO.: PUAM-0257
Application No.: 10/631,883
Office Action Dated: December 29, 2005

PATENT
REPLY FILED UNDER EXPEDITED
PROCEDURE PURSUANT TO
37 CFR § 1.116

115. (Original) The glycopeptide antibiotic of claim 112 wherein at least one of said substituted aryl groups is halo substituted aryl.

116. (Original) The glycopeptide antibiotic of claim 112 wherein said at least one substituent which is not hydroxyl is amino.